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Search for the Standard Model Higgs boson decaying into bb and produced in association with a top quark pair in the ATLAS experiment

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I am a 2nd year PhD student working in the ATLAS experiment at Cern. In this collaboration, I mainly contributed to the identification of b-jets. I optimized the reconstruction of secondary vertices at high jet momentum, improved the recognition of B-hadron vertices against V0 vertices, and brought some corrections to a Boosted Decision Tree algorithm (that combines b-tagging informations into one single discriminant variable), leading to a significant improvement of physics performances.

Since the beginning of 2016, I have been involved in the search for the 'Higgs boson, top and antitop quarks' final state in the regime where the three particles are produced at high momenta. I compared the 13 TeV proton-proton collisions recorded in 2015 with the predictions, and optimized the selection. I am also working on detector operations, with the responsibility to maintain an efficient data recording.

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